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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,750	10/23/2001	Wade C. Patterson	8213	5036

22922 7590 01/16/2007  
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EXAMINER
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LI, SHI K

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/035,750

Applicant(s)

PATTERSON ET AL.

Examiner

Shi K. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-14 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-14 and 19-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-11, 19-20, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laverty, Jr. et al. (U.S. Patent 5,508,510) in view of Welch et al. (U.S. Patent 5,903,373).

Regarding claims 1 and 4, Laverty, Jr. et al. teaches a system which uses pulsed infrared sensor to control fluid flow. Laverty, Jr. et al. discloses in FIG. 10A infrared transmitter (XMTR) and infrared receiver (RCVR) for transmitting infrared pulses which are reflected by an object within the sensors field of view (see, e.g., col. 6, lines 63-65). Laverty, Jr. et al. teaches in FIG. 10A optional portable remote control device for range and dwell adjustments and detecting battery status of the infrared sensor. Inherently, the infrared sensor changes from normal mode, which is the detection of object for fluid control, to communication mode when the portable remote control device is activated within communication range of the infrared sensor. Laverty, Jr. et al. teaches in col. 2, lines 51 that the communication is a two-way (bidirectional) communication. Laverty, Jr. et al. teaches in col. 13, line 25-col. 14, line 52 operation instructions for using the remote control device. For example, user press TIME or RANGE function to display the current setting. The difference between Laverty, Jr. et al. and the claimed invention is that Laverty, Jr. et al. teaches a portable remote control device while the claimed

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invention is a hand-held device. Welch et al. teaches in col. 1, lines 48-50 that infrared transceivers draw relatively low currents and suitable for hand-held battery-powered devices. One of ordinary skill in the art would have been motivated to combine the teaching of Welch et al. with the system of Laverty, Jr. et al. and design the remote control device as a hand-held device because a hand-held device can be easily carried and used. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to design the remote control device as a hand-held device, as taught by Welch et al., in the system of Laverty, Jr. et al. because a hand-held device can be easily carried and used.

Regarding claim 3, Laverty, Jr. et al. teaches in col. 13, lines 55-64 that after entering security code, the remote unit display battery status. Welch et al. teaches in col. 5, lines 7-9 using broadcast frame for sending signals to a plurality of receivers.

Regarding claims 5-6, Laverty, Jr. et al. teaches in FIG. 10A photodiode.

Regarding claims 7-8, Laverty, Jr. et al. teaches in the abstract that the system is for activate a fluid supply control to control the supply of fluid when the presence of a person or object is detected. Laverty, Jr. et al. teaches in col. 7, lines 17-19 that the presence of a person or object is detected by reflecting ranging pulses.

Regarding claims 9-10, Laverty, Jr. et al. teaches in col. 13, lines 35-36 that when a user press TIME or RANGE function, current setting (operation status) will be displayed.

Regarding claim 11, Laverty, Jr. et al. teaches in col. 14, lines 1-52 programming flush time and range of the impulse flusher.

Regarding claim 19, Laverty, Jr. et al. teaches in FIG. 10A photodiode.

Regarding claim 20, Laverty, Jr. et al. teaches in FIG. 2 LED.

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Regarding claim 22, Lavery, Jr. et al. teaches in col. 13, line 25-col. 14, line 52 operation instructions for using the remote control device to request status, set and program flushing time and sensing range.

Regarding claim 24, Lavery, Jr. et al. teaches in col. 13, lines 52-64 that entering the security code causes the remote unit search status signal and display battery status.

3. Claims 1, 4, 7-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange et al. (U.S. Patent 4,916,613) in view of Lavery, Jr. et al. (U.S. Patent 5,769,120).

Regarding claims 1 and 4, Lange et al. discloses in FIG. 1 a system wherein a fixed device 1 communicates with a transmitter and receiver unit 12. Lange et al. teaches in FIG. 1 that device 1 comprises IR transmitter 3 and IR receiver 4. Lange et al. teaches in col. 2, lines 52-60 that transmitter 3 sends pulses which are reflected by a user and detected by receiver 4. Lange et al. teaches in col. 4, lines 4-8 that a communication link can be established by an operator using transmitter and receiver unit 12. The difference between Lange et al. and the claimed invention is that Lange et al. does not teach explicitly that transmitter and receiver unit 12 is a handheld device. However, it is well known in the art that handheld device is suitable for such applications. For example, Lavery, Jr. et al. teaches in FIG. 13 a handheld remote control unit. One of ordinary skill in the art would have been motivated to combine the teaching of Lavery, Jr. et al. with the system of Lange et al. because a handheld device can be carried by an operator for interrogating rinsing systems in different rooms, e.g., in a hotel or office building environment. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a handheld remote control device for interrogating rinsing systems, as taught by Lavery, Jr. et al., in the system of Lange et al. because a handheld device can be

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carried by an operator for interrogating rinsing systems in different rooms, e.g., in a hotel or office building environment.

Regarding claims 7-8, Lang et al. teaches in col. 2, lines 52-54 that the system can serve as a hand rinsing system which operates upon the receipt of reflected ranging pulses.

Regarding claim 9-10, Lange et al. teaches in col. 2, lines 3-7 that the control unit interrogates state of the battery.

Regarding claim 11, Lange et al. teaches in col. 2, line 57 that the transmitter and receiver unit is used for programming.

Regarding claim 13, Lange et al. suggests in col. 1, lines 30-35 that the transmitter sends sequence of pulses.

4. Claims 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laverty, Jr. et al. and Welch et al. as applied to claims 1, 3-11, 19-20, 22 and 24 above, and further in view of Foster (U.S. Patent 6,125,482).

Laverty, Jr. et al. and Welch et al. have been discussed above in regard to claims 1, 3-11, 19-20, 22 and 24. The difference between Laverty, Jr. et al. and Welch et al. and the claimed invention is that Laverty, Jr. et al. and Welch et al. do not teach providing past operation over the communication link. Foster teaches in col. 9, lines 48-50 to transfer hand wash count data stored in EEPROM to handheld computer 119. Foster suggests in FIG. 10 to use a cable for connecting the handheld computer and the hand wash station. However, it is well known in the art that any communication link, including infrared wireless link, can be used for such data transferring. One of ordinary skill in the art would have been motivated to combine the teaching of Foster with the modified system of Laverty, Jr. et al. and Welch et al. because usage data provides information

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for scheduling other operations such as cleaning the sink and refilling soap dispenser. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the communication link in the modified system of Laverty, Jr. et al. and Welch et al. for transferring past operation information, as taught by Foster, because usage data provides information for scheduling other operations such as cleaning the sink and refilling soap dispenser.

Regarding claim 21, Foster teaches in col. 7, lines 65-67 that operation range is adjusted by adjusting threshold.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laverty, Jr. et al. and Welch et al. as applied to claims 1, 3-11, 19-20, 22 and 24 above, and further in view of admission (admitted prior art).

Laverty, Jr. et al. has been discussed above in regard to claims 1, 3-11, 19-20, 22 and 24. The difference between Laverty, Jr. et al. and Welch et al. and the claimed invention is that Laverty, Jr. et al. and Welch et al. do not teach the repetition rate. Instance specification admits on page 4, first paragraph that IrDA compliant device emits pulse every 250 milliseconds, i.e., a repetition rate of 4 Hz. One of ordinary skill in the art would have been motivated to combine the teaching of admission with the modified system of Laverty, Jr. et al. and Welch et al. because a repetition rate of 4 Hz is compliant with IrDA standard and has high compatibility with other infrared communication based products. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a repetition rate of 4 Hz, as taught by admission, in the modified system of Laverty, Jr. et al. and Welch et al. because a repetition rate

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of 4 Hz is compliant with IrDA standard and has high compatibility with other infrared communication based products.

6. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lange et al. and Laverty, Jr. et al. as applied to claims 1, 4, 7-11 and 13 above, and further in view of Powell (U.S. Patent 7,106,174 B1).

Lange et al. and Laverty, Jr. et al. have been discussed above in regard to claims 1, 4, 7-11 and 13. Lange et al. teaches in col. 4, lines 50-51 pulse table 23 for storing different pulses, such as control pulse, detection pulse and test pulse. That is, the control pulse has different shape from the detection pulse. It is obvious to choose a control pulse with greater duration than the detection pulse as a design choice. To further strengthen the rejection, the Examiner cites Powell for teaching different pulse duration for representing different signals. Powell teaches in col. 3, lines 9-10 that pulse characteristics such as duration can be used to represent different signals. Instant specification admits that "those skilled in the art will recognize various ways that the Attention Signal can be formatted to accomplish this indication". Therefore, the use of a longer duration for the Attention signal is well known in the art and obvious. The obviousness is based on a recognition that the claimed difference exist not as a result of an attempt by applicant to solve a problem but merely amounts to selection of expedients known to the artisan of ordinary skill as design choices.

#### ***Response to Arguments***

7. Applicant's arguments with respect to 35 U.S.C. 102 rejection for claims 1, 3-11, 19-20, 22 and 24 have been considered but are moot in view of the new ground(s) of rejection.



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8. Applicant's arguments with respect to 35 U.S.C. 103 rejection of claims 1, 4, 7-11 and 13 have been fully considered but they are not persuasive.

The Applicant argues that Lange does not teach or suggest that the second device is so much as portable. Applicant states "Lange teaches that the remote units are in continual communication with a control unit for determining the state of the battery at the remote unit". However, nowhere does Lange teach **continual** communication between the fixed unit and the control unit.

Furthermore, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding claims 12 and 21, the Applicant argues that Foster's cable actually teaches away from the use of a hand-held device. The Examiner disagrees. Prior art does not teach away from combination of references if such disclosure does not criticize, discredit, or otherwise discourage solution claimed in application. *In re Fulton*, 73 USPQ2d 1141 (CA FC 2004). Since Foster does not criticize the use of remote control, Foster does not teach away the claimed invention.

The Applicant argues that Foster does not teach or suggest a threshold detector. The Examiner disagrees. Foster teaches in col. 7, lines 65-67 "the operating range of the infrared sensor 109 ... can be varied by varying a threshold against which the sensor signal is compared". That is, Foster clearly teaches a threshold detector.

### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

skl  
8 January 2007



**Shi K. Li**  
**Patent Examiner**